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The Effects of a Unit-Based Specialty Certification Preparation Class on Readiness and  
Knowledge to Take the Exam

Keith Bilbrew

Submitted in partial fulfillment of the Doctor of Nursing Practice Degree

Regis University

5 April 2017

## THE EFFECTS OF A UNIT-BASED

### The Effects of a Unit-Based Specialty Certification Preparation Class on Readiness and Knowledge to Take the Exam

#### **Abstract**

This paper examines the effects of a unit-based GI specialty certification preparatory course on the participants' knowledge and readiness to take the GI specialty certification examination. The participants were administered a pre-test, attended a preparatory class session, and then administered a post-test. The results were best illustrated through the use of the percentage score comparing the pre-test and post-test rather than individually by questions missed. The data gained from the first four exam questions was designed to illustrate personal readiness feelings.

The conclusions illustrate that there are significant increases in both knowledge and readiness when the unit-based preparatory class is given. The recommendation is to follow this pilot study with larger-scale studies to validate the use of this method on other specialty areas as a way to promote confidence and knowledge for staff to take specialty certification exams as these certifications have been linked to patient safety and satisfaction, job satisfaction, and retention.

Key words: Nurse Retention, Job Satisfaction, Patient Safety, Patient Satisfaction,  
Specialty Nursing Certification;

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# THE EFFECTS OF A UNIT-BASED

## Executive Summary

**DNP Project Title:** The Effects of a Unit-Based Specialty Certification Preparation Class on Readiness and Knowledge to Take the Exam.

**Problem Statement:** Specialty certification has been shown to validate a nurse's knowledge in a specific area of nursing and to enhance patient care (AACN, 2015). It also has been shown to increase staff satisfaction and retention, saving organizations money and providing consistency and expertise to patients in their care. There are very small numbers of specialty certified GI nurses in the GI department at a large community hospital in the southeast. Will offering a unit-based certification preparation class improve the large community hospital in the southeast GI clinic nurses' readiness and knowledge base to take the GI certification exam as evidenced by a pre- and post-test comparison?

**Purpose:** This was a pilot study to ascertain if there is a benefit to providing unit-based preparation classes to increase nurses' readiness and knowledge to take the specialty certification examination.

**Project Goals:** The objectives will be successfully reached if the pre- and post-tests illustrate an increase in knowledge and readiness in taking the GI specialty certification exam after taking the preparation class. The main objective is to illustrate an improvement in the post-tests from the pre-test results for each participant and overall as a class. The project will be successful if a positive correlation can be made between readiness and knowledge and unit-based preparation classes and further studies are warranted based on this pilot study's findings.

**Project Objectives:** The objective of this project is to offer a unit-based specialty certification preparation class as a way of increasing knowledge and readiness to take these examinations. The hypothesis is that these classes will prove beneficial and increase the number of certified nurses in the unit thereby causing the facility to see a benefit in investing in offering more of these classes in other specialty areas.

**Plan:** The plan for implementing this project was to create a preparation class for the GI unit at a large community hospital in the southeast using current certification study material that was offered through the SGNA certifying body, alerting nurses in the unit to the date, time, and location of the free class, and then implementing the class. There was a test completed before and after the class by all participants that evaluated their knowledge and readiness in taking the certification examination. The results of the pre-test were compared with the results of the post-test to determine the outcome of the study.

**Outcomes and Results:** There was a significant correlation shown between increased readiness and knowledge to take the examination and having the on-site preparation class.

### **Acknowledgements**

I would like to thank my wife who has gone through this process by my side, my mentor and my instructors who have guided me, and I dedicate this to my father, Booker T Bilbrew, may he rest in peace.

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### **Problem Recognition and Definition**

Nursing specialty certification is an extra board certification that validates a nurse's increased knowledge in a specific area of nursing. There are many accredited certifications available and nurses must meet minimum requirements to be eligible to apply to take the test to earn them. The nurse must also earn a specific number of continued education credits in between certification and recertification to be eligible to continue to maintain their certification. This paper will look specifically at the gastrointestinal registered nursing certification (CGRN).

According to the American Association of Critical Care Nurses (AACN), (2015), certification provides nurses a way to validate their skills and knowledge and keep up with current practices through recertification. Further, maintaining certification helps to create a professional environment that promotes retention.

Specialty certification has been shown to validate a nurse's knowledge in a specific area of nursing and to enhance patient care (AACN, 2015). It has been shown to increase staff satisfaction and retention saving organizations money and providing consistency and expertise to patients in their care. There are very small numbers of specialty certified GI nurses in the GI department at a large community hospital in the southeast. There are many reasons why there are not many certified nurses despite the overall benefits that come with certification. One major reason is the costs associated with taking the test and studying for the test. Any available funds or other cost deferments may be one way to increase certification numbers.

This aspect is important to the role of the DNP practitioner because as a practitioner in this role, patient and staff satisfaction are a part of the job. A DNP practitioner is a nurse in the highest of leadership roles making everything affecting patient care and staff satisfaction important to their success in that role. The outcomes of this project resulted in information that

is organization and patient sensitive in that the information can be used to enhance the number of certified nurses at a facility and in turn enhance patient care, nursing satisfaction, and staff retention (AACN, 2015). This project can be a basis for future, extensive studies on the importance of organizations supporting nurses through certification with incentives like certification preparation classes.

This project was focused in a unit-based setting. This was a small unit consisting of GI nurses. The preparation class offered was focused on the GI nursing certification exam. The purpose of the project was to answer the problem question; will offering a unit-based certification preparation class improve the GI clinic nurses' readiness and knowledge base to take the GI certification exam as evidenced by a pre- and post-test comparison? This focused around the PICO; P: nurses at a large community hospital in Fayetteville, NC, I: unit-based preparation class, C: pre- and post-tests, O: increased readiness and knowledge base to take GI certification exam after preparation test.

### **Theoretical Foundations**

The Nursing Intellectual Capital Theory is the foundational theory chosen to be the basis for relation to this project. According to Covell & Sidani (2013), Nursing Intellectual Capital theory relates the sources of nursing knowledge within an organization to patient outcomes. The overall theory looks at nurses' knowledge and experience as actual capital for a facility. The more experience and education a nurse has, the more value they have in a facility towards their capital. This project sought to illustrate that providing certification preparation courses in the unit-based setting will increase the facility's nursing intellectual capital by increasing the number of certified nurses. This increase will translate down to better patient and organizational

outcomes. The increase in the knowledge gained from these classes will increase the intellectual capital the organization has.

This project also has a theoretical basis that can be linked to Imogene King's conceptual system and middle range theory of goal attainment. This theory describes how theoretical knowledge and the nurse-patient relationship leads to goal attainment (King, 1992). Nurses' relationship with their patients drives them to desire further education and better ability to care for them. Expansion of their knowledge through the unit-based education can help them attain this goal through specialty certification as specialty certification has been shown to be a way to better care for their patients. By offering classes for their staff, the organization can help nurses reach their end goals of giving their patients the best care possible.

### **Literature Review**

This systematic review was conducted using CINAHL (Cumulative Index to Nursing and Allied Health Literature, Medscape, Google Scholar, AMSN article search, SGNA article search, and Lippincott Nursing Center. The search was specified to include full text articles, English language, and articles published from 2010 to 2015. The main keywords used in the search included; certified nurse, job satisfaction, certification, specialty nursing, certification benefits, employer benefits, work environments, nurse retention, retention, autonomy, empowerment, nurse education, nurse advancement, obtaining certification, patient care improvement, incentives to certify, and education level. When assessing each article, the content was evaluated and identification of certain elements was performed. These elements were; purpose, design, level of evidence, population/sample size, methods, tools, setting, theoretical framework, outcomes, conclusions, implications, funding sources, and implications towards the PICO question: will offering a unit-based certification preparation class improve the GI clinic

nurses' readiness and knowledge base to take the GI certification exam at a large, community hospital in Fayetteville, NC as evidenced by a pre- and post-test comparison?

The initial findings using these keys words revealed 110 articles with potential for inclusion. The final analysis of these articles only yielded 31 articles for inclusion. Of these articles, five were quantitative and 26 were qualitative, 19 were integrated literature reviews, five were surveys, four were data analysis studies, one was a focus group, one was an interview, and one was a unit-based study. (Appendix A)

There is a wealth of information relating to education and confidence of nurses as well as certification and its benefits. Beaudoin, Alderson, and St-Louis (2014) found that certification is a key aspect in a nurses' professional and psychological growth processes. Certification contributes to improvements in clinical competence, self-confidence, and autonomy which all can fight burnout, emergence of PTSD, and help retain nurses longer (Beaudion, Alderson, & St-Louis, 2014). Many professional have some basic form of licensure requirements (Boulet & van Zanten, 2013), but certification takes professionalism a step beyond because it has been acknowledged as a way to validate a nurse's knowledge and expertise on a specified area of practice (Brown, 2013).

There are many benefits to the nurse, employer, and patients for nurses to become certified in their specialty. For the nurse, it creates higher marketability (Fischer-Carlidge & Mahon, 2014). The nurse gains an increased perception of empowerment when they get certified (Fitzpatrick, Campo, Graham, & Lavandero, 2010). Certified nurses have a positive impact on all aspects of patient care and a level of experience and knowledge that are essential for any organization hoping to gain Magnet status (Medical Surgical Nursing Certification Board (MSNCB), 2015). There is also a greater sense of autonomy in nurses who get certified

(Weston, 2010). This sense of autonomy is accompanied by an increased confidence in personal abilities, frequent and more effective collaboration with others in the disciplinary team, and encouragement toward lifelong learning and continued scholarship (Williams & Counts, 2013). Overall, job satisfaction is improved which leads to higher retention rates for certified nurses (Wyatt & Harrison, 2010). This autonomy and job satisfaction is not only associated with nurse retention, but a feeling of increased respect, recognition, and status (Weston, 2010).

There are multiple benefits to both employer and patient surrounding certification of nurses. Anything that impacts patient care also impacts the organizations bottom line; therefore, patient and organizational benefits are tied closely together. The increasing RN shortage is a serious threat to health care quality (Lawrence, 2011). Many of the nurses interviewed by AMN Healthcare (2013) that are not certified state they would not be working in their current job in a year from now. In fact, bedside nurse turnover ranged between 4.4 and 44.6 percent in 2013 (American Nurses Association, 2013). According to Fitzpatrick, Campo, Graham, and Lavandero (2010), there was a significant difference between certified and uncertified nurses' intent to leave their current position. To replace a nurse that leaves, the organization incurs a cost of around \$36,000 to \$48,000 (American Nurses Association, 2013). According to Martin (2015), inadequate staffing leads to negative patient outcomes and eventual nurse burnout. Even on the administrative level, turnover is less. This is very important because administrators can also impact the quality of care in a facility significantly (Geletta & Sparks, 2013). There is also the need to retain seasoned nurses because of their level of expertise in patient care. The retention of these nurses is a priority for leadership to address (Hill, 2010). Work conditions are improved when the number of certified nurses on a unit increase and this element (work conditions) is one of the main reasons nurses stay or leave a position (McGilton, Boscart, Brown,

& Bowers, 2012). The overall factors considered part of the work environment are; quality of patient care, staffing, communication, collaboration, moral dilemmas, continued education, leadership, support for certification, job recognition, and personal safety, all of which are impacted by nursing certification numbers (Ulrich, Lavandero, Woods, & Early, 2014).

Other than retention, there are other patient and organizational benefits to certification. National nursing specialty certification has been shown to improve both patient safety and quality of care (Boyle, Cramer, Potter, & Staggs, 2015). In general, nurse specialty certification has been found to lead to better patient outcomes (Kendall-Gallagher, Aiken, Sloane, & Cimiotti, 2011). Hospitalized patients are sicker with more complex diagnoses than in the past, requiring increased and ongoing nursing education to care for them (Fights, 2012). Certification also validates a nurses' ability to think critically. Since they perform care that is very complex, unpredictable, and constantly changing, nurses need to be able to think critically to make sound decisions especially in a crisis situation (Hart, et al, 2014). Due to these qualities, there have been fewer adverse patient events, higher patient satisfaction scores, more effective communication, fewer work-related injuries, and fewer disciplinary events among certified nurses (HPNA, 2012). Another consideration surrounding certification is the pay-for-performance reimbursement by Medicare. Penalties have been placed on facilities for poor patient outcomes; certification improves patient outcomes and therefore increases reimbursement to the organization (Williams, Lopez, & Lewis, 2013).

Certification illustrates high-quality expert abilities and competent practice (Krapohl, Manojlovich, Redman, & Zhang, 2010). Responses received from patients regarding certification are positive even when it is unclear how much they really understand about the process (Lipner, Hess, & Phillips, 2013). When the public is educated about certification, what it

is, and what it stands for, 91% said it was important for them to go to a facility in which healthcare workers were certified (Jeffries, 2013). Another study showed that 73% would be more likely to choose a hospital that employs a high percentage of certified nurses (AACN, 2015). This impacts areas with more than one hospital since patients will have an option as to where they seek their healthcare.

Certification helps to ensure the patients' needs are met, professional practice is enhanced, and a competent health professional is caring for patients (Lyneham, 2013). With this knowledge, why is not every nurse seeking to gain certification as soon as they are qualified to do so? There are many barriers that prevent the nurse from seeking certification (Bumphus, 2013). The most reported barrier is cost. Even though hospitals stand to benefit from maintaining a certified workforce, many do not pay for the costs of certification rather leaving that to the individual (Brown, 2013). Other barriers reported are; fear of taking tests, costs of study materials and study courses, and not wanting to study and test alone (Fischer-Carlidge & Mahon, 2014). There are things a facility can do that will increase certification rates by creating a culture of certification (Hartigan, 2011).

Employer support is important in a nurse's decision to seek certification (AACN, 2015). Being supportive of the process of certification is the biggest way to encourage staff towards certification. Some things to help eliminate barriers are to promote certification support financially towards the cost of testing, study materials and study classes (Wyatt & Harrison, 2010). A unit-based certification review course is one way that employers can belay the costs of study classes, provide time to attend this class, and promote the importance of specialty certification (Falker, 2014). These classes have been shown to promote confidence in test taking skills and better prepare nurses to be successful on the exam (AACN, 2015).



**Market Risk Analysis**

To evaluate the market risk for this PICO, a SWOT analysis was conducted to evaluate the strengths, weaknesses, opportunities, and threats that exist (Appendix I). Strengths that exist when looking at offering a preparation class to better prepare nurses to take the certification examination include; flexibility in the location and times the class will be offered, personal instructor-led sessions, ability to get instant feedback for questions, ability for the instructor to better follow-up with the nurses' progress towards certification, increased confidence in knowledge to take the test, the ability for the instructor to evaluate the nurses' true educational needs, low-cost incentive for employees to take the certification examination, and the ability for the nurses to see the value in certification through discussions with the instructor. Strengths gained through certification for the nurses include; expanded knowledge of certification requirements, expanded knowledge of specialty field, validation of their skills, opportunities for wage increases after completion of clinical ladder, and increased confidence and status in their specialty field. The strengths for the facility include; an increased number of GI certified nurses, increase in patient safety, and increase in patient care and satisfaction. The strengths for the patients served by these nurses at this facility include; higher safety standards, increased satisfaction, increased quality of care, increase in nursing competence, and increased confidence in their nurse.

Weaknesses are the second factor to consider. Some of the weaknesses identified relating to this PICO include; the costs of the exam, the costs of study materials, the refusal to reimburse for certification if the nurse is unable to pass the test, inability of the nurse to pass the test causing personal distress and spreading discouragement in the unit, and inability for a nurse to take the exam due to qualifications needed. These weaknesses may not only prevent the nurses

from taking the examination, but may prevent them from attending the unit-based class all together.

Opportunities for this PICO are present not only in the unit being studied, but for future education in other units. When looking for existing unit-based certification preparation classes that were advertised as being available over the last six years in the local area, there were none actually advertised and only one offered at all (American Nurses' Credentialing Center, 2016). The one offered was through the online format and not in-person at all. This leaves a great need for these unit-based offerings. The increase in preparation classes offered will lead to higher certification rates in many specialty areas, not just GI. This leads to an opportunity to offer classes for many areas in local community hospital such as ICU, Cardiac, and Medical/Surgical areas that have specialty certification opportunities.

The final consideration is given to threats to this project. A large threat that exists is the refusal to pay for certification exams if the nurse does not pass. This makes the incentive to attempt the examination less appealing as fear of failing the test and losing such a large amount of money may prevent nurses from even wanting to take the offered preparation classes. Another threat to this project is the nurses' perceptions in the unit. If they do not perceive certification as important and beneficial, they may choose not to participate in the preparation classes or may rate their willingness and confidence in taking the test after the class poorly for their personal lack of desire to take the examination at all. This low rating can alter the true results of providing this class. This makes the questions on the pre- and post-test very important in the process of gaining real insight into the effectiveness of these classes. (Appendix I)

The identifiable stake holders in this project initially are the researcher, and his mentor. The facility in which the research will be done, the nurses taking the class, and the patients at this

facility are all indirectly stake holders. The success of this project makes them stake holders in that the success of increasing certified nurses in the unit will benefit all of them immensely and the failure of this project will provide no foreseeable benefits. The biggest stake the researcher will hold in this project is time. There is no tangible financial cost invested as the unit allowed the researcher to use a room for the class and materials were already obtained. The researcher dedicated a lot of time in planning and implementing the education portion as well as alerting the unit nurses of the time and date of the class. This was done at no cost through both work email and word-of-mouth as this is a very small unit. The time costs for this project was approximately 1200 hours. If this project were to be replicated, there would be the book cost at a maximum of \$250, around 1200 hours of time to create the class and tests which can equate to an average amount of \$38,400 for an hourly employee, and any costs needed to obtain a space to teach in and to copy the tests.

### **Project Objectives**

The mission of this project was to offer a unit-based specialty certification preparation class as a way of increasing knowledge and readiness to take these examinations. The vision is that these classes would prove beneficial and increase the number of certified nurses in the unit, thereby causing the facility to see a benefit in investing in classes in other specialty areas. Overall, the vision is to use unit-based preparation classes to increase the number of specialty certified nurses throughout this facility and others nationwide. This mission was considered successful because the pre- and post-tests illustrated an increase in knowledge and readiness in taking the GI specialty certification exam after taking the preparation class. The main objective was to illustrate an improvement in the post-tests from the pre-test results for each participant and overall as a class.

The plan for implementing this project was to create a preparation class for the GI unit at a large community hospital in the southeast using current certification study material that is offered through the Society of Gastroenterology Nurses and Associates (SGNA) certifying body, alerting nurses in the unit to the date, time, and location of the free class, and then implementing the class. A test was completed before and after the class by all participants that evaluated their knowledge and readiness in taking the certification examination. The results of the pre-test were compared with the results of the post-test to determine the outcome of the study.

### **Evaluation Plan**

#### **Logic Model**

The model chosen to use to present the project's outcomes was found in the readings from Zaccagnini & White (2017) and was created by the W.K. Kellogg Foundation (2004). This model appealed to this researcher because it is presented in a very easy-to-read table that builds from left to right on itself to illustrate a plan of action and a measurement of success. This model will be able to help the researcher illustrate their plan to answer the proposed question.

The data that was collected was quantitative and made it easier to present the data in a logical manner. This model has an organized process to use data collected so that themes in the data can emerge for outcome measurement to be possible. This appealed to the researcher in that it allowed for a way to evaluate the data received from the pre- and post-tests. (Appendix B)

#### **Population and Sampling Parameters**

This project had many variables to address when planning for implementation. The first set of variables was the independent variables. These variables are the ones that the researcher has control over as they were the interventions of the experiment (Polit, 2009). For this project, the independent variable was the preparation class the researcher gave. The researcher was in

control of the content of the preparation class. This variable impacted the dependent variables which were the outcome variables (Polit, 2009). The outcomes of the post-test results from the class given were subjective to the participants and beyond manipulation. The last sets of variables to consider are the extraneous variables. These were all the other variables that the researcher may or may not have control over (Polit, 2009). These types of things were experience levels, education levels, and personal perceptions of the participants. The work environment was one extraneous variable that was controlled as this is a single unit-based education that will be given so all participants worked on the same unit.

The population, according to Zaccagnini & White (2017, p 84), is “everyone and everything that meets the criteria for inclusion.” In this case, the population was all the nurses employed by GI Lab because this was a unit-based study. The sample size had the potential to vary depending on willingness to participate and could have ranged from 5-13 participants. This sample is inclusive of the entire unit so its size is appropriate for a single unit-based experiment. The final sample size was seven participants.

### **Setting**

The setting used for this study was a room on the GI unit at a large community hospital in the southeast. The room was large enough to seat up to 12 people comfortably and with seven confirming attendance, it was large enough to use. There was a table and chairs for participants to sit at and take their examinations. It was quiet and away from the noise of the unit as it was not in the procedure areas or the recovery areas.

### **Methodology and Measurement**

This experiment was a quasi-experimental, pilot study design that did not involve randomization and was based off a comparison of intact groups as it was studying an impact of

an intervention on a group activity (Polit, 2009). It looked at the impact of the cause (preparation class) to record an effect or outcome (increase in knowledge and readiness to take the certification exam). The outcomes measured by the tests were increases in readiness and knowledge to take the GI certification test by comparison of the pre- versus the post-test answers. The test was adapted from the free, online practice test provided by Morrison (2016), meant to evaluate a nurses' knowledge of certification test questions and the class was adapted from the outline in the study book purchased from the Society of Gastroenterology Nurses and Associates (SGNA). (Appendix C)

The participants were graded anonymously through the coding of their tests and no personal information was recorded. They were given an explanation of the purpose and goals of the study before taking their pre-test. The pre-test was administered before the class, the class was given, and then the post-test was administered. The tests were graded later at a separate location for study analysis. No participant was allowed to know their grades because of the anonymity of the tests that was to be maintained. All tests will remain in a secure location for three years before being destroyed. The anonymity allowed for IRB approval (Appendix E).

## **Project Findings and Results**

### **Statistical Tests**

After reviewing different statistical data analysis testing methods, it was determined that the paired samples t-test is the test that would be most appropriate for analyzing the data. This test is used when comparing two small groups of quantitative data that are collected at different times (Caprette, 2015). However, through the coding of the data, given the small sample size, this testing was only viable to show results by comparing the aggregate scores of the pre-test and post-test grades rather than each individual question missed. The two sets of data that were

compared were the scores on the before and after tests completed by the participants. The tests were compared to see if there was an increase, decrease, or no change in readiness and knowledge in taking the certification exam after completion of the preparation course. The data was classified in a way that allows comparison of each test completed at the beginning and end by that same participant. This allowed the researcher to show both individual and group statistics. A Cronbach's alpha test was run to test the internal consistency of the data to show reliability in the results since aggregate scores were being used in this case.

Tables I, II, and III (Appendix J) are the descriptive statistics of the aggregate scores. Illustrates the paired samples t-test run on the aggregate scores. This illustrates the expected results that this sample cannot be generalized as a population representative of all nurses. This was expected because it is a single-unit study designed as a pilot study. However, the data can be said to be accurate as a descriptor for this particular unit because seven out of 13 people participated.

Table II (Appendix J) illustrates the significance of the study performed. The hypothesis is that there will be a difference in the pre- and post-tests grades. With  $p < 0.05$ , the null hypothesis is rejected and the study is determined to be significant. There is also a strong correlation illustrated with improvement in test scores after the preparatory class. Table III illustrates the confidence level in this study and the two-tailed significance of the study ( $p = 0.000$ ). The confidence level was calculated at 95%. (Appendix J)

Table IV (Appendix J) illustrates the first four questions of the test that were subjective readiness questions and were simply quantified to show change. The answers for yes indicate a readiness to take the exam versus the answers for no indicating non-readiness. The pre-test shows that there was a total of 15 yes responses and 13 no responses. This shows that before the

preparatory class, 53% of their answers were positive in readiness and 46% of their answers were negative. In contrast, the post test results show that there were 27 yes responses and only one no response to the questions illustrating that 96% of their answers were positive in readiness and only 4% were negative responses. This is a 43% increase in positive responses to personal readiness to take the test.

### **Validity, Power, and Threats**

A Cronbach's alpha test was run to test the internal consistency of the data to show reliability in the results since aggregate scores were being used in this case. The null hypothesis was rejected because of this strong correlation ( $p < 0.050$ ). There was a clear correlation to the participants scoring higher on their post-tests versus their pre-tests and in the self-evaluated readiness to take the examination. Table V below is the results of the Cronbach's alpha that shows that there is a result of 0.715. This is a significant reliability as it is greater than 0.50. (Appendix J)

### **Variable Coding**

The tests were labeled by the participant with an assigned number to them to identify participant and then labeled with an "A" for pre-test and "B" for post-tests. The variables assigned allowed for comparison of the pre- and post-tests from the same participant without any personal information being collected. The answers of each individual questions for the pre-test and post-test were assigned a value of 2 for correct answers and 1 for incorrect answers. This allowed for easier quantification of the results and subsequently the need to use aggregate scores to truly illustrate outcomes. The qualitative data is simply counted and weighed by percentage.



### **Project Limitations, Recommendations, and Implications for Change**

The projects limitations are identified in the fact that this is meant to be a pilot study and as such cannot be representative of nurses in general, rather of the nurses in this unit. It is also only representative of a group of GI nurses and cannot be generalized to other types of specialty certifications. To make an accurate recommendation in general, further studies are needed.

Other limitations of the study include the short time allowed for the class, the fact the tests were given closely together, and the fact that the participants may have been more likely to participate because of their personal acquaintance with the researcher.

It is recommended that further studies be performed as the results in this project are promising. The results can be valuable in nursing education and in hospital policy when trying to improve certification numbers in a facility. With further validation of these results and a more general sample, the recommendation is to offer preparatory classes on units to encourage more nurses to take the specialty certification examinations. This important in today's current practice as having more nurses that are specialty certified has proven to increase patient safety, patient satisfaction, job satisfaction, and retention. With reimbursement being tied into patient safety and satisfaction, and the nursing shortage coupled with the cost of replacing nurses in turnover, this is a subject that cannot be ignored.

### **Summary**

This study has illustrated promise for future studies on certification preparedness and readiness. The correlation between a unit-based preparatory class and the knowledge and readiness of participants to take the GI specialty certification examination is strong. With further studies, the value of these unit-based classes can be validated and give incentive to organizations to provide these for their nurses.

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## Appendix A

## Systematic Review Table

<b>Article/Journal</b>	<i>Nurse certification benefits patients, employers and nurses.</i> Retrieved from <a href="http://www.aacn.org/wd/certifications/">http://www.aacn.org/wd/certifications/</a> .	<i>2013 Survey of registered nurses.</i> Retrieved from <a href="http://www.amnhealthcare.com">www.amnhealthcare.com</a> .	Better prepared workforce, better retention. <i>The American Nurse</i> , 1-3.	Fostering professional development and improving the psychological health of nurses through the North American certification process in critical care. <i>Journal of Nursing Education and Practice</i> , 4(1), 177-188.	Ensuring high-quality patient care: The role of accreditation, licensure, specialty certification and revalidation in medicine. <i>Medical Education</i> , 48(1), 75-86.
<b>Author/Year</b>	AACN (2015).	AMN Healthcare (2013).	American Nurses Association (2013).	Beaudoin, G., Alderson, M., & St-Louis,	Boulet, J. & van Zanten, M. (2014).

				L. (2014).	
<b>Database/ Keywords</b>	Google/ nurse certification, retention, certification benefits, professionalism	Google/healthcar e surveys, retention surveys, certification surveys	Google/ ANA, nurse retentio n, certifica tion	Google/ professi onal develop ment, certifica tion, retentio n	CINAHL/s pecialty certificatio n, retention, patient care
<b>Research Design</b>	Review of Literature	Survey Study	Intervie ws	Literatu re review	Overview of materials
<b>Level of Evidence</b>	Level V	Level IV	Level V	Level V	Level V
<b>Study Aim/Purpose</b>	To describe found benefits for nurses, employers, and patients for nurses that obtain specialty certification	To explore satisfaction levels across age groups of nurses	To explore how educati on and mentors hip can affect turnove r	To review the certifica tion process and any potentia l benefits	To establish the benefits of quality oversight mechanism s/ To establish the value of certificatio n
<b>Population/Sam ple size Criteria/Power</b>	6 major studies/ research dealing with reasons for certification	3,413 surveys/ emailed to random nurses then stratified by age groups	10/ professi onal intervie ws of leadersh ip	105 articles/ Articles dealt with the impact of certifica tion on patients and organiz ations	64/researc h dealing with current issues in regulation, research in the field, and the need for further certificatio ns and oversights
<b>Methods/Study Appraisal</b>	Literature review	Qualitative Survey	Intervie ws	Literatu re Review	Literature Review

<b>Synthesis Methods</b>					
<b>Study tool/instrument validity/reliability</b>	Moderate	High	Moderate	Moderate	Moderate
<b>Primary Outcome Measures/Results</b>	Nurse certification contributes to professionalism and better outcomes for all	There are 23% of nurses age 55 and older preparing to leave the field and less than half of the nurses in the field are planning to pursue higher education	There is reduced turnover when education is provided in the unit	Studies have shown the certification process to be beneficial to nurses, patients, and organizations	Certifying bodies need to be aware of changing practices to stay valid
<b>Conclusions/Implications</b>	Employers should encourage and support nurses to earn certification	There will be a loss of experienced nurses in the field	Unit-based education opportunities increase retention	The certification process could generate many benefits and create empowerment for nurses	While certification is important, not all certifying bodies maintain current standards
<b>Strengths/Limitations</b>	The sources are very current and are credible/The sample size is small	There was a large sample size and it was a random sample/ the study did not take into account what factors may be causing the nurses to leave other than age	These were opinions based on a small sample size	A large sample was used/ no actual study was performed	The information comes from many up-to-date sources and more than one author reviewed all of the



					literature/ There is no direct study done, only literature review of studies
<b>Funding Source</b>	none	AMN healthcare	ANA	none	none
<b>Comments</b>	Makes some good points towards certifying	Shows other reasons certification can help	Illustrates how a unit-based education course might benefit	This illustrates the need for certification and how the process is done	Has some parts I could use, but this article is not the main contributor to my paper

<b>Article/Journal</b>	Cost of certification: Who bears the financial burden? <i>Medsurg Nursing</i> , 22(5), 335-336.	Longitudinal association of registered nurse specialty certification and patient falls in acute care hospitals. <i>Nursing Research</i> , 64(4), 291-299.	The case for academic progression: Why nurses should advance their education and the strategies that make this feasible. <i>Charting Nursing's Future</i> , 21(1), 1-8.	Development of an in-house review course to increase Med-Surg certification. <i>Medsurg Matters</i> , 23(6), 10-13.	Lifelong learning: Improving patient care and nursing practice. <i>Medsurg Nursing</i> , 21(4), 193-194.
<b>Author/Year</b>	Brown, J. (2013).	Boyle, D., Cramer, E., Potter, C.,	Bumphus, W. (2013).	Falker, A. (2014).	Fights, S. (2012).

		& Staggs, V. (2015).			
<b>Database/Keywords</b>	CINAHL/cost of certification, specialty certification, benefits of certification	CINAHL/certification, patient falls, patient safety, quality improvement	Google/certification, academic advancement, nurses' professionalism	AMSN/nurse certification, specialty nurses, professionalism	AMSN/certification importance, specialty certification
<b>Research Design</b>	Literature review	Longitudinal data with standardized variable definitions	Literature and Data collection	Literature Review	Literature review
<b>Level of Evidence</b>	Level V	Level I	Level III	Level V	Level V
<b>Study Aim/Purpose</b>	To illustrate the financial cost of certification/ To review the financial costs and value to facilities and nurses of certification	Examine the relationship over time between nurse specialty certification and patient fall rates	Look at the number of RNs returning to school and the barriers they face	Review the effects of an in-house training on certification rates	Assess the need for more certified nurses
<b>Population/Sample size Criteria/Power</b>	15/research dealing with certification benefits and costs	7,583 from 903 hospitals/RNs with and without certification	8 years of data from database used/RN levels seeking further education	16 articles and 5 taught classes/ research on in-house education success	2 sources and personal interview/ research on importance of certification today
<b>Methods/Study Appraisal Synthesis Methods</b>	Literature Review	RCT	Literature and data review	Literature Review/	Literature Review

				controlled trial	
<b>Study tool/instrument validity/reliability</b>	Moderate	High	Moderate	Moderate	Low
<b>Primary Outcome Measures/Results</b>	Certification holds many benefits to facilities and patient care but the cost is a barrier	There was an inverse relationship with the rate of falls and the number of certified nurses on that unit	Over the years, the number of RNs returning to school had increased, but not as desired	Establishing the in-house education increased self-confidence and knowledge	Certification is needed to keep up with the complexity of today's patients
<b>Conclusions/Implications</b>	If facilities help defer the costs, more nurses would attain certification	Findings suggest organizations should be supportive of certification	Many barriers exist preventing return to school	Providing this education can increase certification rates	Certification increases care
<b>Strengths/Limitations</b>	The information comes from many up-to-date sources / There is no direct study done, only literature review of studies	Large randomized sample and actual experimental data/ Data was collected from NDNQI hospital database and hospitals electively pay to participate, this leaves a larger sample being	Study looks at many years/Only one major database was used and it is post data so no investigation could be done, reasons are gotten later	Study is both a literature and experiment/this is qualitative data	Study is backed by many other studies/ small sample size and allowance for bias with interview

		Magnet hospitals			
<b>Funding Source</b>	none	There are 32 listed grant sources, all being specialty nurse organizations	none	AMSN	none
<b>Comments</b>	This article has many of the things I am looking for in my paper regarding my PICO question	This article has many points available to add to my research	This article explores the readiness for nurses to receive continued education	This article explores my exact question	This article validates need for certification as well

**Appendix B**

<b>Resources</b>	<b>Activities</b>	<b>Outputs</b>	<b>Short/Long Term Outcomes</b>	<b>Impact</b>
<b>In order to accomplish our set of activities we will need the following:</b>	In order to address our problem or asset we will conduct the following activities:	We expect that once completed or under way these activities will produce the following evidence of service delivery:	We expect that if completed or ongoing these activities will lead to the following changes in 1–3 then 4–6 years:	We expect that if completed these activities will lead to the following changes in 7–10 years:
<b>Cooperation of on-unit staff to take the class</b>  <b>Cooperation of management to allow staff to take the class</b>	Create and administer an on-unit certification preparation course  Get permission, time, and date for class  Create test for before and after class on certification readiness and knowledge	Information on effects of on-unit preparation classes on readiness and confidence in taking a GI certification exam within the following 6 months	1-3 years: The value of this training will be recognized by other units  4-6 years: More units and facilities will begin to offer these classes to encourage staff to become certified	7-10 years: More nurses become certified as it has been shown to improve patient care, nurse retention, and nurse competency  More facilities will offer incentives other than these classes as well to promote certification

**Appendix C**

Read the questions carefully and circle the best answer to the question. Please do NOT put your name on this paper.

1) Do you feel you can pass the GI specialty certification test?

Yes

No

2) Do you want to take the specialty certification test in the next three months?

Yes

No

3) Do you feel having study sessions will help you pass the specialty certification class?

Yes

No

4) Do you feel having study sessions will create a desire for you to take the specialty certification test?

Yes

No

1. A 28-year-old woman who had gastric bypass surgery (Roux-en-Y) experiences bloating, abdominal cramping, nausea, and vomiting within minutes after eating. Her typical meal consists of a small potato, 3 ounces of meat, half a slice of white bread, half a banana, a small piece of cake, and 8 ounces of sweetened iced tea. Which of the following is indicated as an initial treatment?

- a. Acarbose to delay carbohydrate absorption
  - b. Octreotide to slow intestinal emptying
  - c. Increased protein, reduced carbohydrates, and avoiding drinking during meals
  - d. Decreased protein, increased carbohydrates, and a glass of juice or milk during meals
2. A patient being treated for a gastric ulcer has been stable on medications. Which of the following indicates a possible emergent situation that the nurse should report to the physician immediately?
- a. Inability to sleep well and generalized anxiety
  - b. Periodic epigastric pain (heartburn) relieved by medications
  - c. Nausea after taking prescribed antibiotics
  - d. Increasing back and epigastric pain unrelieved by medications
3. A patient receiving total parenteral nutrition (TPN) for inflammatory bowel disease should be monitored every 6 hours for which of the following?
- a. Hemoglobin and hematocrit
  - b. Blood glucose level
  - c. Blood, urea, nitrogen (BUN)
  - d. Electrolytes
4. Considering placement of a permanent colostomy, which anatomical position is most likely to result in semi-soft, mushy stool?
- a. Ascending colon
  - b. Transverse colon
  - c. Descending colon
  - d. Sigmoid colon

5. When inserting a small-bore nasogastric tube, which of the following is the best method to verify placement of the tube in the stomach?

- a. Aspirating gastric contents and checking pH
- b. Injecting air and auscultating the gastric region
- c. Taking a chest x-ray
- d. Taking an abdominal x-ray

6. Which of the following Vitamins is not stored in the Liver?

- A. Vitamin A
- B. Vitamin B
- C. Vitamin C
- D. Vitamin D

7. Which of the following is not a contributor to a condition of ascites?

- A. Elevated levels of aldosterone
- B. Hypertension
- C. Low levels of albumin
- D. Elevated levels of angiotensin I

8. Which of the following drugs is a histamine blocker and reduces levels of gastric acid?

- A. Omeprazole (Prilosec)
- B. Metoclopramide (Reglan)
- C. Cimetidine (Tagamet)
- D. Magnesium Hydroxide (Maalox)

9. Which of the following drugs is an antacid?

- A. Omeprazole (Prilosec)



B. Metoclopramide (Reglan)

C. Cimetidine (Tagamet)

D. Magnesium Hydroxide (Maalox)

**10.** Which of the following drugs is a dopamine antagonist?

A. Omeprazole (Prilosec)

B. Metoclopramide (Reglan)

C. Cimetidine (Tagamet)

D. Magnesium Hydroxide (Maalox)

**11.** Another name for the Whipple procedure is a \_\_\_\_\_.

A. Cholangiopancreatography

B. Pancreatoduodenectomy

C. Cholangiogram

D. Cholecystogram

**12.** Which of the following microorganisms has been linked to Parotitis?

A. Staphylococcus aureus

B. Schistosoma

C. Wucheria bancrofti

D. Trypanosoma cruzi

**13.** What type of cell releases somatostatin?

A. b cells

B. a cells

C. plasma cells

D. D cells

14. What type of cell releases glucagon?

- A. b cells
- B. a cells
- C. plasma cells
- D. D cells

15. What type of cell releases insulin?

- A. b cells
- B. a cells
- C. plasma cells
- D. D cells

16. Another name for the (Billroth II)procedure is a \_\_\_\_\_.

- A. Gastrojejunostomy
- B. Gastroduodenostomy
- C. Cholangiogram
- D. Cholecystogram

17. Another name for the (Billroth I)procedure is a \_\_\_\_\_.

- A. Gastrojejunostomy
- B. Gastroduodenostomy
- C. Cholangiogram
- D. Cholecystogram

18. Which of the following arteries supplies blood primarily to the Midgut?

- A. IMA
- B. Celiac

C. SMA

D. Axillary

19. Which of the following is not considered a right of medication?

A. Dose

B. Time

C. Route

D. Limit

20. Another name for the Myenteric plexus is the \_\_\_\_\_.

A. Submucosal plexus

B. Branchial plexus

C. Auerbach's plexus

D. Lumbar plexus

21. Which of the following enzyme breaks down starches to maltose.

A. Amylase

B. Lipase

C. Trypsinogen

D. Pepsin

22. Which of the following is not considered an H2 blocker?

A. Ranitidine (Zantac)

B. Famotidine (Pepcid)

C. Cimetidine (Tagament)

D. Sucralfate (Carafate)

23. Which of the following drugs aids in gastric emptying?

- A. Cisapride (Propulsid)
- B. Ranitidine (Zantac)
- C. Famotidine (Pepcid)
- D. Tranylcypromine sulfate (Parnate)

**Answers (not to be included on test itself)**

- 1. C
- 2. D
- 3. B
- 4. C
- 5. C
- 6. C
- 7. D
- 8. C
- 9. D
- 10. B
- 11. B
- 12. A
- 13. D
- 14. B
- 15. A
- 16. A
- 17. B

18. C

19. D

20. C

21. A

22. D

23. A

**Appendix D**

Milestone:

- 1) Project Approval (20 August 2016)
- 2) Class and test design completion (31 August 2016)
- 3) Classes scheduled and advertised for (30 September 2016)
- 4) Classes taught and tests completed (31 December 2016)
- 5) Test and data analyzed (31 March 2017)

Time Line

Milestone 1    Milestone 2    Milestone 3    Milestone 4    Milestone 5



## Appendix E

### Budget

There was no monetary resource needed for this project. The materials for creation of the test and class were found electronically without cost and through personal resources already available. If the study book would have needed to be purchased, the researcher would have personally paid for it at a cost of \$35. The biggest resource is time invested.

Cost	Amount
Book	\$250
Hours	1200= \$38,400
Printed Tests	\$1.60/participant
Class Room	Varies greatly

**Appendix F**



REGIS.EDU

**Institutional Review Board**

DATE: October 18, 2016

TO: Keith Bilbrew, MSN

FROM: Regis University Human Subjects IRB

PROJECT TITLE: [941182-1] The Effects of a Unit-Based GI Specialty Certification  
Preparation Class on Readiness and Knowledge to Take the Exam

SUBMISSION TYPE: New Project

ACTION: DETERMINATION OF EXEMPT STATUS

DECISION DATE: October 18, 2016

REVIEW Exemption category # (2)

CATEGORY:

Thank you for your submission of New Project materials for this project. The Regis University Human Subjects IRB has determined this project is EXEMPT FROM IRB REVIEW according to federal regulations 45.CFR46.101(b).



We will retain a copy of this correspondence within our records.

If you have any questions, please contact the Institutional Review Board at [irb@regis.edu](mailto:irb@regis.edu). Please include your project title and reference number in all correspondence with this committee.

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within Regis University Human Subjects IRB's records.

## Appendix G

### COLLABORATIVE INSTITUTIONAL TRAINING INITIATIVE (CITI PROGRAM) COURSEWORK REQUIREMENTS REPORT\*

\* NOTE: Scores on this Requirements Report reflect quiz completions at the time all requirements for the course were met. See list below for details. See separate Transcript Report for more recent quiz scores, including those on optional (supplemental) course elements.

• **Stage** Stage 1 - Stage 1

• **Report** 18720209  
 • **Completion** 02/14/2016  
 • **Expiration** 02/13/2020  
 • **Minimum** 80  
 • **Reported** 87

#### REQUIRED AND ELECTIVE MODULES

	DATE
Institutional Conflicts of Interest (COI-Basic) (ID: 16765)	02/14/16
CITI Conflict of Interest Course - Introduction (COI-Basic) (ID: 15177)	02/14/16
Financial Conflicts of Interest: Overview, Investigator Responsibilities, and COI Rules (COI-Basic) (ID: 15072)	02/14/16
Institutional Responsibilities as They Affect Investigators (COI-Basic) (ID: 15072)	02/14/16

**For this Report to be valid, the learner identified above must have had a valid affiliation with the CITI Program identified above or have been a paid Independent**

#### CITI

Email: [citisupport@miami.edu](mailto:citisupport@miami.edu)

Phone: 305-243-7970

Web: <https://www.citiprogram.org>

• **Name:** Keith Bilbrew (ID: 5397397)  
 • **Email:** kbilbrew@regis.edu  
 • **Institution Affiliation:** Regis University (ID: 745)  
 • **Institution Unit:** DNP on nursing  
 • **Phone:** 706-566-7723

• **Curriculum Group:** CITI Conflicts of Interest  
 • **Course Learner Group:** Conflicts of Interest

Collaborative Institutional  
Training Initiative  
at the University of Miami

**COLLABORATIVE INSTITUTIONAL TRAINING INITIATIVE (CITI PROGRAM)**  
**COURSEWORK TRANSCRIPT REPORT\*\***

**\*\* NOTE:** Scores on this Transcript Report reflect the most current quiz completions, including quizzes on optional (supplemental) elements of the course. See list below for details. See separate Requirements Report for the reported scores at the time all requirements for the course were met.

- **Name:** Keith Bilbrew (ID: 5397397)
- **Email:** kbilbrew@regis.edu
- **Institution Affiliation:** Regis University (ID: 745)
- **Institution Unit:** DNP on nursing
- **Phone:** 706-566-7723

• **Stage** ~~Stage 11--Basic Course~~

- |                     |            |
|---------------------|------------|
| • <b>Report</b>     | 18720210   |
| • <b>Completion</b> | 02/14/2016 |
| • <b>Expiration</b> | 02/13/2019 |
| • <b>Minimum</b>    | 80         |
| • <b>Reported</b>   | 92         |

## REQUIRED AND ELECTIVE MODULES

## DATE \_\_\_\_\_

## Role and Responsibilities of an IRB Chair (ID: 15386)

## IRB Chair Meeting Responsibilities (ID: 15387)

The IRB Chair's Role Outside of the IRB Meeting (ID: 15388)

**For this Report to be valid, the learner identified above must have had a valid affiliation with the CITI Program identified above or have been a paid Independent**

CITI

Email [citisupport@miami.edu](mailto:citisupport@miami.edu)

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Web: <https://www.citiprogram.org>

- **Curriculum Group:** CITI Conflicts of Interest
- **Course Learner Group:** Conflicts of Interest

**COLLABORATIVE INSTITUTIONAL TRAINING INITIATIVE (CITI PROGRAM)**  
**COURSEWORK REQUIREMENTS REPORT\***

\* NOTE: Scores on this Requirements Report reflect quiz completions at the time all requirements for the course were met. See list below for details. See separate Transcript Report for more recent quiz scores, including those on optional (supplemental) course elements.

- **Name:** Keith Bilbrew (ID: 5397397)
- **Email:** kbilbrew@regis.edu
- **Institution Affiliation:** Regis University (ID: 745)
- **Institution Unit:** DNP on nursing

- **Phone:** 706-566-7723
- **Curriculum Group:** IRB Chair
- **Course Learner Group:** Same as Curriculum Group

## COLLABORATIVE INSTITUTIONAL TRAINING INITIATIVE (CITI PROGRAM)

### COURSEWORK TRANSCRIPT REPORT\*\*

\*\* NOTE: Scores on this Transcript Report reflect the most current quiz completions, including quizzes on optional (supplemental) elements of the course. See list below for details. See separate Requirements Report for the reported scores at the time all requirements for the course were met.

- **Name:** Keith Bilbrew (ID: 5397397)
- **Email:** kbilbrew@regis.edu
- **Institution Affiliation:** Regis University (ID: 745)
- **Institution Unit:** DNP on nursing
- **Phone:** 706-566-7723

#### • **Stage** Stage 1 - Basic Course

- **Report** 18720207
- **Completion** 02/14/2016
- **Expiration** 02/13/2019
- **Minimum** 80
- **Reported** 89

REQUIRED AND ELECTIVE MODULES	DATE
Belmont Report and CITI Course Introduction (ID: 1127)	02/14/16
History and Ethical Principles - SBE (ID: 490)	02/14/16
The Federal Regulations - SBE (ID: 502)	02/14/16
Assessing Risk - SBE (ID: 503)	02/14/16
Informed Consent - SBE (ID: 504)	02/14/16
Privacy and Confidentiality - SBE (ID: 505)	02/14/16
Regis University (ID: 1164)	02/14/16

**For this Report to be valid, the learner identified above must have had a valid affiliation with the CITI Program identified above or have been a paid Independent**

#### CITI

Email: [citisupport@miami.edu](mailto:citisupport@miami.edu)

Phone: 305-243-7970

Web: <https://www.citiprogram.o>

- **Curriculum Group:** IRB Chair
- **Course Learner Group:** Same as Curriculum Group

## COLLABORATIVE INSTITUTIONAL TRAINING INITIATIVE (CITI PROGRAM)

### COURSEWORK REQUIREMENTS REPORT\*

\* NOTE: Scores on this Requirements Report reflect quiz completions at the time all requirements for the course were met. See list below for details. See separate Transcript Report for more recent quiz scores, including those on optional (supplemental) course elements.

- **Name:** Keith Bilbrew (ID: 5397397)
- **Email:** kbilbrew@regis.edu
- **Institution Affiliation:** Regis University (ID: 745)

- **Institution Unit:** DNP on nursing
- **Phone:** 706-566-7723
- **Curriculum Group:** Human Research
- **Course Learner Group:** Social Behavioral Research Investigators and Key Personnel
- **Stage:** Stage 1 - Basic Course

## COLLABORATIVE INSTITUTIONAL TRAINING INITIATIVE (CITI PROGRAM)

### COURSEWORK TRANSCRIPT REPORT\*\*

\*\* NOTE: Scores on this Transcript Report reflect the most current quiz completions, including quizzes on optional (supplemental) elements of the course. See list below for details. See separate Requirements Report for the reported scores at the time all requirements for the course were met.

- **Name:** Keith Bilbrew (ID: 5397397)
- **Email:** kbilbrew@regis.edu
- **Institution Affiliation:** Regis University (ID: 745)
- **Institution Unit:** DNP on nursing
- **Phone:** 706-566-7723

- **Curriculum Group:** Human Research

- **Report** 18720208
- **Completion** 02/14/2016
- **Expiration** 02/13/2019
- **Minimum** 80
- **Reported** 91

### REQUIRED AND ELECTIVE MODULES

	DATE
Authorship (RCR-Refresher) (ID: 15661)	02/14/16
Collaborative Research (RCR-Refresher) (ID: 15662)	02/14/16
Conflicts of Interest (RCR-Refresher) (ID: 15663)	02/14/16
Data Management (RCR-Refresher) (ID: 15664)	02/14/16
Peer Review (RCR-Refresher) (ID: 15665)	02/14/16
Research Misconduct (RCR-Refresher) (ID: 15666)	02/14/16
Mentoring (RCR-Refresher) (ID: 15667)	02/14/16
Research Involving Human Subjects (RCR-Refresher) (ID: 15668)	02/14/16
Using Animal Subjects in Research (RCR-Refresher) (ID: 15669)	02/14/16

**For this Report to be valid, the learner identified above must have had a valid affiliation with the CITI Program identified above or have been a paid Independent**

### CITI

Email: [citisupport@miami.edu](mailto:citisupport@miami.edu)

Phone: 305-243-7970

Web: <https://www.citiprogram.org>

- **Course Learner Group:** Social Behavioral Research Investigators and Key Personnel
- **Stage:** Stage 1 - Basic Course

## COLLABORATIVE INSTITUTIONAL TRAINING INITIATIVE (CITI PROGRAM)

### COURSEWORK REQUIREMENTS REPORT\*

\* NOTE: Scores on this Requirements Report reflect quiz completions at the time all requirements for the course were met. See list below for details. See separate Transcript Report for more recent quiz scores, including those on optional (supplemental) course elements.

- **Name:** Keith Bilbrew (ID: 5397397)
- **Email:** kbilbrew@regis.edu
- **Institution Affiliation:** Regis University (ID: 745)

- **Institution Unit:** DNP on nursing
- **Phone:** 706-566-7723
  
- **Curriculum Group:** The RCR for Social & Behavioral
- **Course Learner Group:** Same as Curriculum Group
- **Stage:** Stage 1 - RCR
- **Description:** This course is for investigators, staff and students with an interest or focus in **Social and Behavioral** research.



## Appendix H

### CAPE FEAR VALLEY

TRANSFORMING HEALTHCARE

BEHAVIORAL HEALTH CARE

CAPE FEAR VALLEY MEDICAL CENTER

CAPE FEAR VALLEY REHABILITATION  
CENTER

HEALTH PAVILION NORTH

HIGHSMITH-RAINEY SPECIALTY  
HOSPITAL

BLOOD DONOR CENTER

CANCER CENTER

CARELINK

CAPE VALLEY HOME HEALTH  
HOSPICE

CUMBERLAND COUNTY EMS FAMILY

DIRT CENTER

HEART & VASCULAR CENTER  
HEALTHPLEX

LIFELINK CRITICAL CARE TRANSPORT

PRIMARY CARE PRACTICES

SLEEP CENTER

#### Cape Fear Valley Hospital GI Lab

#### Letter of Agreement

8/14/16

To Regis University Institutional Review Board (IRB):

I am familiar with Keith Bilbrew's research project entitled The Effects of a Unit-Based

Specialty Certification Prep Class on Readiness and Knowledge to Take the Exam to understand Cape Fear Valley Hospital's involvement to be to allow volunteers in the GI Lab to attend a free specialty certification prep class that includes a pre and posttest on knowledge and readiness.

I understand that this research will be carried out following sound ethical principles and that participant involvement in this research project is strictly voluntary and provides confidentiality of research data, as described in the proposal.

Therefore, as a representative of Cape Fear Valley Hospital GI Lab, I agree that Keith Bilbrew's research project may be conducted at our agency/institution.

Sincerely,

9

41/45/4/ /dn1

Debra Egan, R , BSN: PCM

910-615-5834

Instructions: (Select one)

- Fax with original signature to (303) 964-5528
- Email as pdf file with original signature to [irb@regis.edu](mailto:irb@regis.edu) from an official agency email address.
- Adobe electronic signature to [irb@regis.edu](mailto:irb@regis.edu)

For Regis University sponsored research in cooperation with other organizations or agencies:

- A Letter of agreement from each organization or agency cooperating in Regis University sponsored research is necessary to ensure that relevant information regarding the proposed research has been shared with and agreed to by the appropriate agency or institutional authority. The

institutional authority is an individual who has signatory authority for the organization (e.g. school principal, chief executive officer, etc.).

- Letter(s) of Agreement must be provided to the Regis University IRB. This is one of the prerequisites for protocol approval.
- Letter(s) of Agreement must be on the official organization or agency letterhead using the template shown above.

1638 OWEN DRIVE / FAYETTEVILLE NORTH CAROLINA 28304 / 910.609.4000 / [www.capefearvalley.com](http://www.capefearvalley.com)

## CAPE FEAR VALLEY

TRANSFORMING HEALTHCARE

BEHAVIORAL HEALTH CARE

CAPE FEAR VALLEY MEDICAL CENTER

CAPE FEAR VALLEY REHABILITATION  
CENTER

HEALTH PAVILION NORTH

HIGHSMITH-RAINEY SPECIALTY  
HOSPITAL

LOOD DONOR CENTER

CANCER CENTER

CARELINK

CAPE FEAR VALLEY HOME HEALTH  
HOSPICE

CUMBERLAND COUNTY EMS

FAMILY CENTER

HEART & VASCULAR CENTER

HEALTHPLEX

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### Cape Fear Valley Hospital GI Lab

#### Letter of Agreement

8/14/16

To: Regis University Institutional Review Board (IRB):

I am familiar with Keith Bilbrew's research project entitled The Effects of a Unit-Based Specialty Certification Prep Class on Readiness and Knowledge to Take the Exam. I understand Cape Fear Valley Hospital's involvement to be to allow volunteers in the GI Lab to attend a free specialty certification prep class that includes a pre and post-test on knowledge and readiness.

I understand that this research will be carried out following sound ethical principles and that participant involvement in this research project is strictly voluntary and provides confidentiality of research data, as described in the proposal.

Therefore, as a representative of Cape Fear Valley Hospital GI Lab, I agree that Keith Bitbrew's research project may be conducted at our agency/institution.

Sincerely,

Martina Herz, RN, B ; Clinical Coordinator; Supervisor for GI Lab 910-615-5834

## Appendix I

### SWOT Analysis Model



**Appendix J****Table I**

Paired Samples Statistics				
	Mean	N	Std. Deviation	Std. Error Mean
Pair 1 aggpre	38.57	7	2.760	1.043
aggpost	43.57	7	1.718	.649

**Table II**

Paired Samples Correlations			
	N	Correlation	Sig.
Pair 1 aggpre & aggpost	7	.939	.002

**Table III**

Paired Samples Test								
	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1    aggpre - aggpost	-5.000	1.291	.488	-6.194	-3.806	-10.247	6	.000

**Table IV**

Participant	AQ1	AQ2	AQ3	AQ4	BQ1	BQ2	BQ3	BQ4
1	N	N	Y	Y	Y	Y	Y	Y
2	N	Y	Y	Y	Y	Y	Y	Y
3	N	Y	Y	Y	Y	Y	Y	Y
4	N	N	Y	Y	Y	Y	Y	Y
5	Y	N	Y	N	Y	Y	Y	Y
6	N	N	Y	N	Y	Y	Y	Y
7	Y	N	Y	N	Y	Y	Y	N

**Table V**

Reliability Statistics	
Cronbach's Alpha	N of Items
.715	46